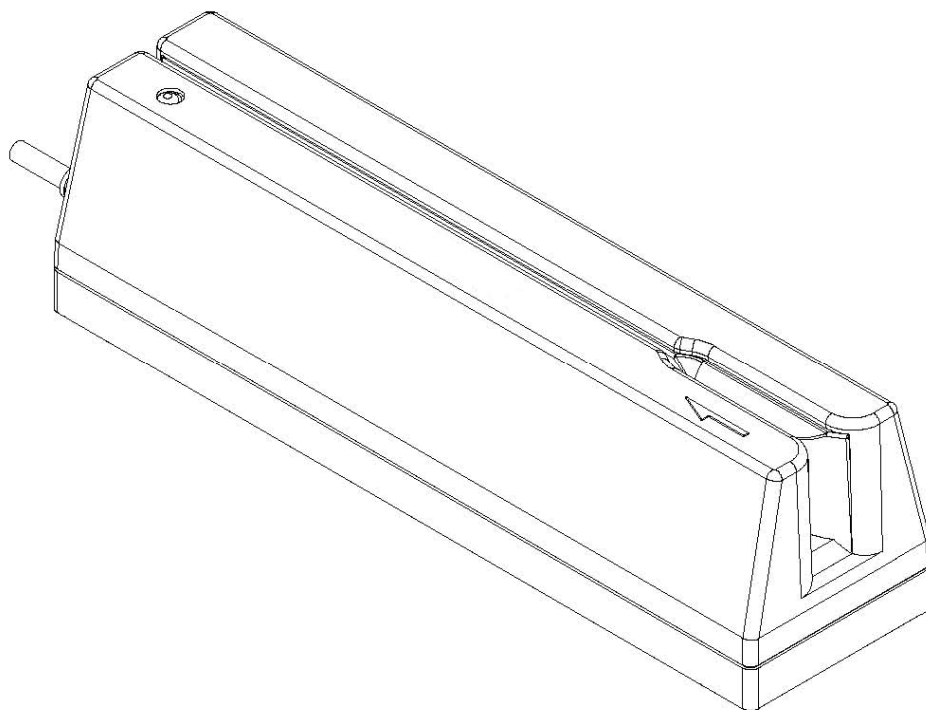




**PG-MSR207 manual swipe magnetic card
Reader/Writer User's
Guide**



Ver.7.01

Table of the contents

Introduction.....	3
Hardware specifications.....	3
Accessories of PG-MSR207.....	4
Using the PG-MSR207 Software.....	4
General.....	4
1.AutoScan.....	4
2. Reading Cards	6
3. Writing Cards.....	7
4. Erase Track Data.....	8
5. Duplicating Cards.....	9
Application.....	11
1. Writing by File.....	11
2. Sequence Writing.....	12
Options.....	13
1. Select High/Low magnetic Coercivity.....	13
2. Leading Zero.....	13
3. Language.....	13
APPENDIX A PG-MSR207x Programmer Guide...	15
APPENDIX B Hardware Installation Chart.....	33

Introduction

Thank you for purchasing the PG-MSR207 manual swipe magnetic card Reader/Writer. It is ideal for access control, time keeping, banking, ID recognition and credit verification and relative applications. In fact, wherever a magnetic stripe ID or transaction card is used, one can find a related use for the versatile, user friendly PG-MSR207 Reader/Writer.

The PG-MSR207 is designed to offer a reading and writing solution of high or low coercivity magnetic stripe cards that will attractively complement an existing system.

This user manual provides the detail information about the PG-MSR207.

Hardware Specifications

Standard:

ISO 7811-6

Power supply:

External power supply adaptor DC24V/2.1A regulated.

Consumption:

Current/Operating Typical 1.3A
(400mA for each track of writer head).

Communication of RS232 interface:

19200 BPS, None Parity, 8 Bits

Environment:

Operating: -10°C to 60°C / 10 to 85% humidity, non
condensing

Storage: -20°C to 70°C / 10 to 90% humidity, non
condensing

Media Speed:

Read: 5 ~ 40 IPS (Inch Per Second)

Write (High coercivity): 5 ~ 30 IPS

Write (Low coercivity): 5 ~ 30 IPS

Accessories of PG-MSR207

Make sure all the following accessories are contained in your package:

1. Power supply adaptor output DC 24V/2.1A.
2. Utility disc (PG-MSR207 software for windows)
3. PG-MSR207 device

Using PG-MSR207 utility software

For using the PG-MSR207 utility software we recommend you to use the IBM compatible personal computer with MS windows operation system.

The minimums of system request as below:

- * Intel Pentium 90MHz above (or other compatible processors).
- *Memory 64MB.
- *MS windows operation system(Win98SE/Me/NT4 SP4/2000/XP).
- *Standard RS232 interface (For some Note-Book PC without RS232 interface built in USB interface , you can use our product USB232 converter to connect it. We've already test USB232 converter with PG-MSR207 and PG-MSR207 utility software.)

General

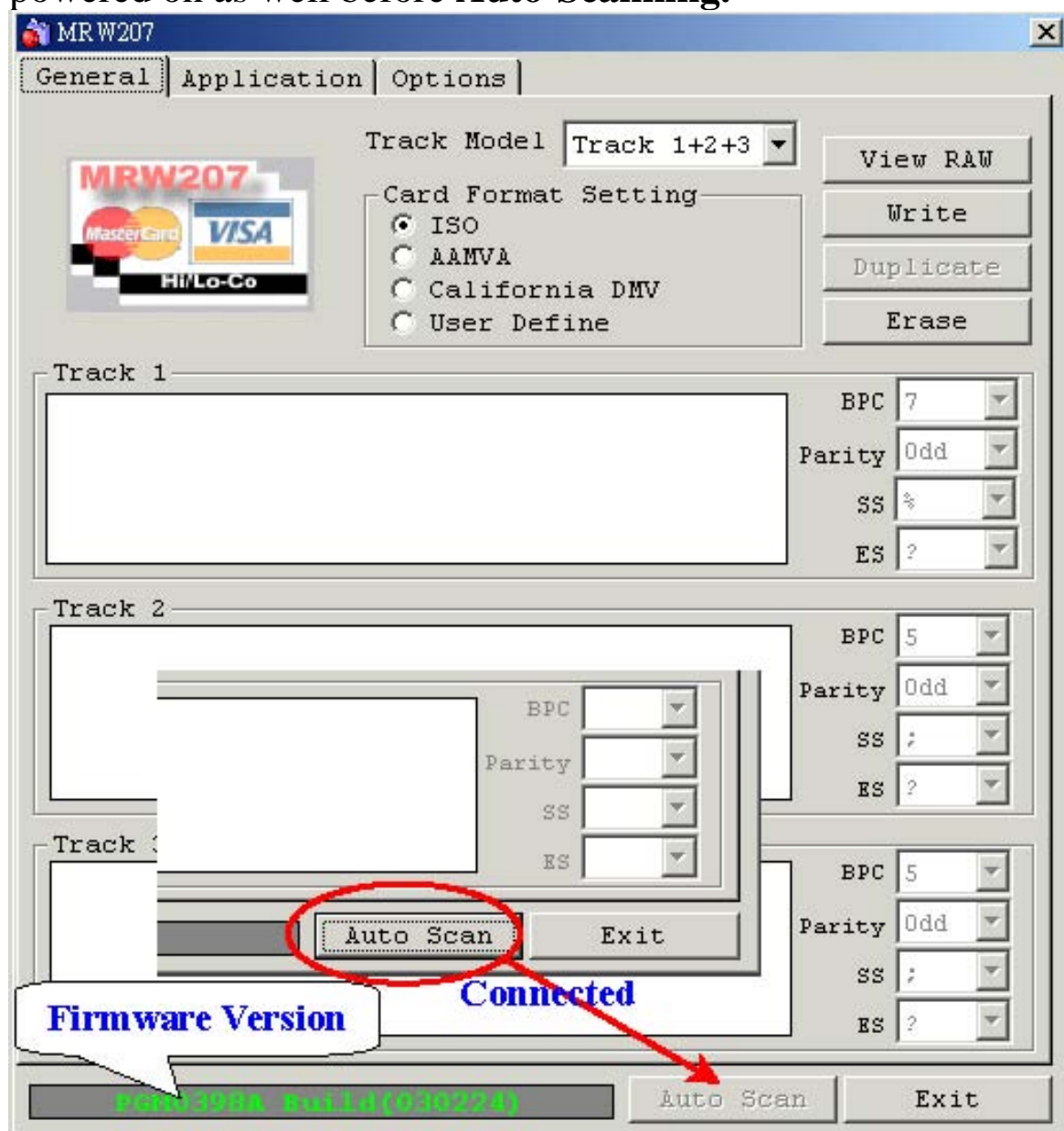
Auto-Scan

When the utility software of PG-MSR207 is opened, firstly please connect PG-MSR207 with the PC by RS232 DB-9 connector, see Appendix B, you will see the main window of PG-MSR207 as below. From this main window you can activate all functions by

clicking the appropriate buttons and following the on screen instructions.

The utility software can Auto-Scan whether a PG-MSR207 is connected. PG-MSR207 will sound a beep when it is successfully connected with the PC.

Make sure the PG-MSR207 is well connected with the PC and powered on as well before **Auto-Scanning**.



Reading Cards

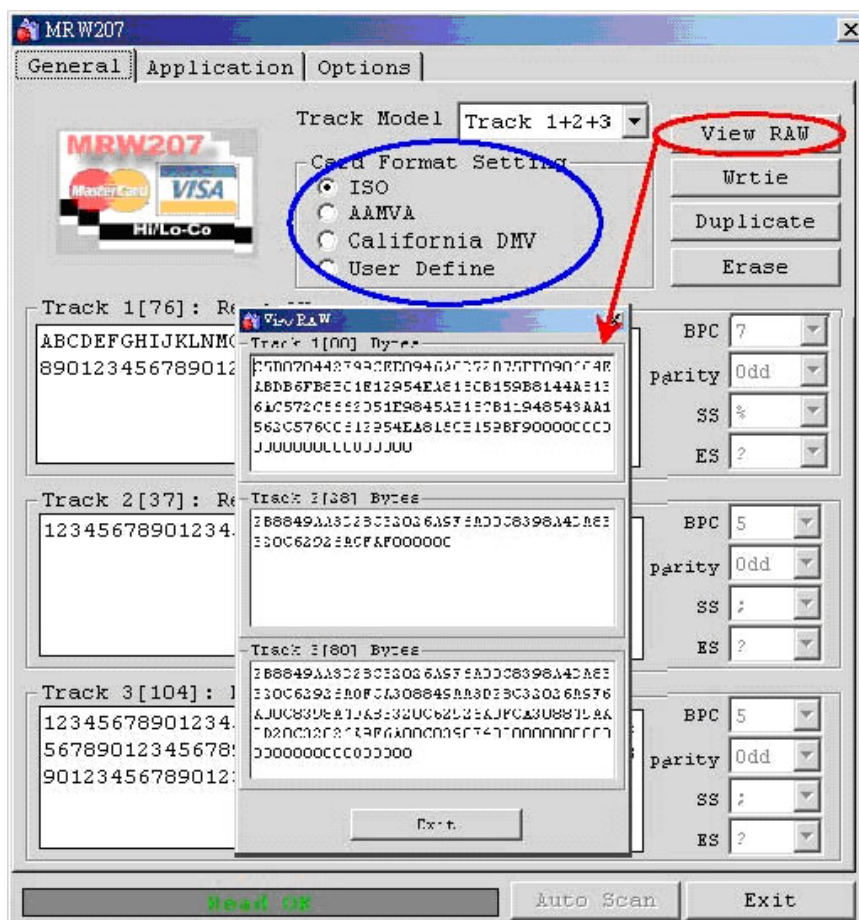
This section describes how to read magnetic card by PG-MSR207.

At first, check your magnetic card data format that you can get the information from the provider if the card is given with valid data.

Select card format by clicking option button inside blue circle. You have to make sure that both card data format and magnetic card format set on the software are the same

Swipe the magnetic card through the slot of PG-MSR207 to read the card.

If all track data are decoded correctly PG-MSR207 will show message “READ OK” on the status bar .At the same time, you will hear a beep from PG-MSR207 and all track data will be displayed on the main window as below. After reading the card, you can also click ‘View RAW’ button (inside red circle.) to view RAW data of the reading tracks.

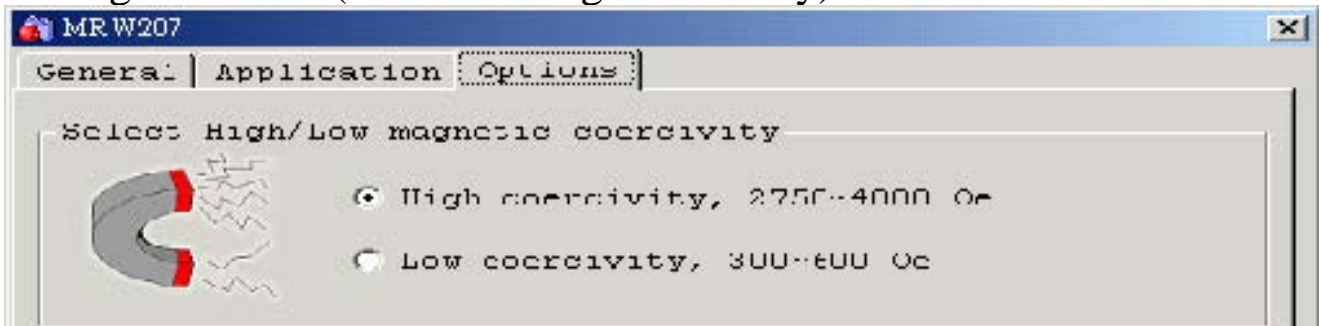


Writing Cards

This section describes how to write data onto the magnetic card by PG-MSR207.

Step1

Select High coercivity (2750 ~ 4000 Oe) or Low coercivity (300 ~ 600 Oe) at “options” window according to the specifications of magnetic card. (Default is High coercivity)



Step2

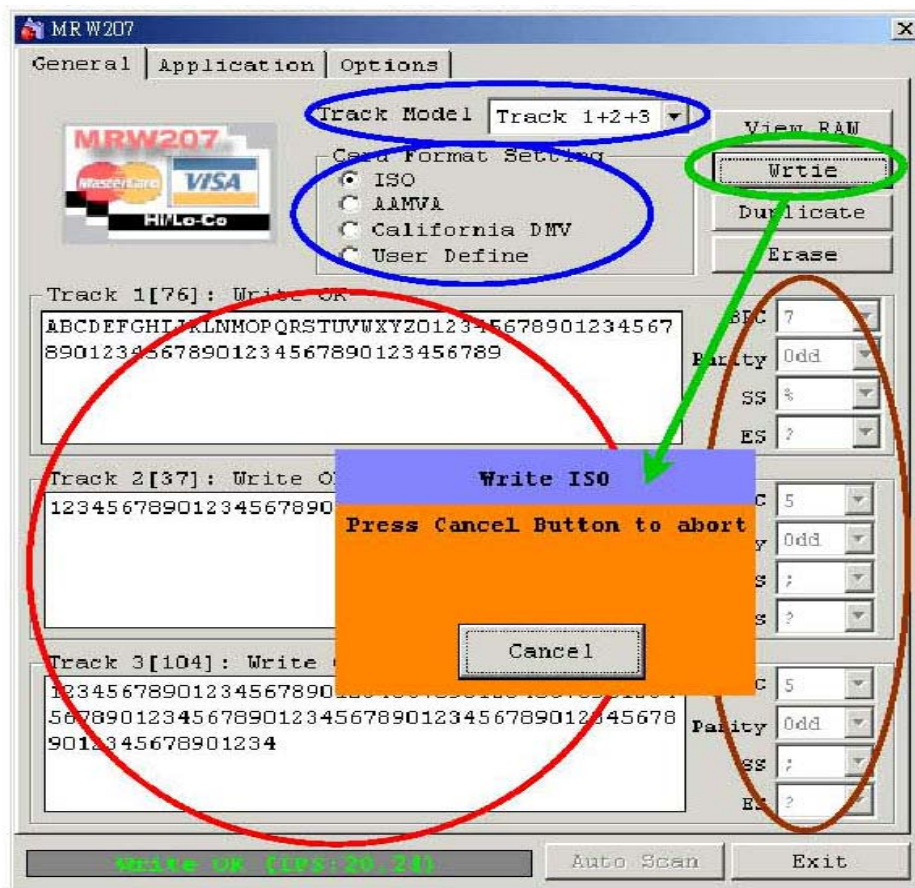
Select card format by clicking option button and select track model (inside blue circle). BPC, Parity, SS and ES Combo boxes (inside coffee circle) is enabled only when ‘User Define’ is selected

Step3

Edit the data (inside red circle) that you want to write onto the magnetic card.

Step4

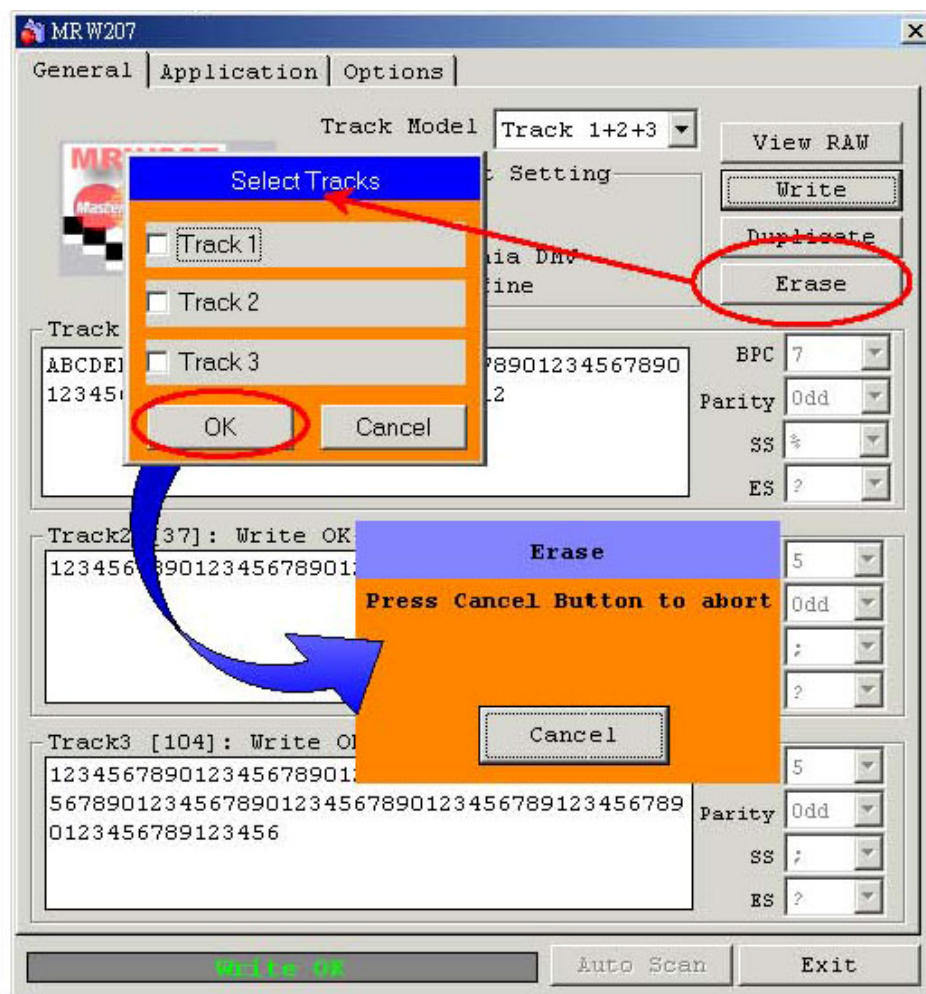
Click ‘Write’ button to show a message window. (You can click ‘Cancel’ button to abort the writing). Swipe the magnetic card after clicking “Write” button. PG-MSR207 will wait for about 10 seconds for you to swipe the card. If the writing is OK or NG the status bar will show ‘Write OK’ or ‘Write NG’ with IPS information.



Erase Track Data

This section describes how to erase each track data on magnetic card by PG-MSR207. Sometimes you may want to erase any track data on magnetic card, what you have to do is to click the “Erase” button and select the tracks you want to erase.

Swipe the magnetic card after clicking “OK” button. Then The status bar will show you the result of erasing. PG-MSR207 will wait for about 10 seconds for you to swipe the magnetic card as same as Writing cards.



Duplicating Cards

This section describes how to make duplicates of the source magnetic card by PG-MSR207.

Step 1

Select card format by clicking option button and read the source card following the steps of “Reading Cards”.

Step 2

Edit the data or input data in ‘Read Card’ function.

Step 3

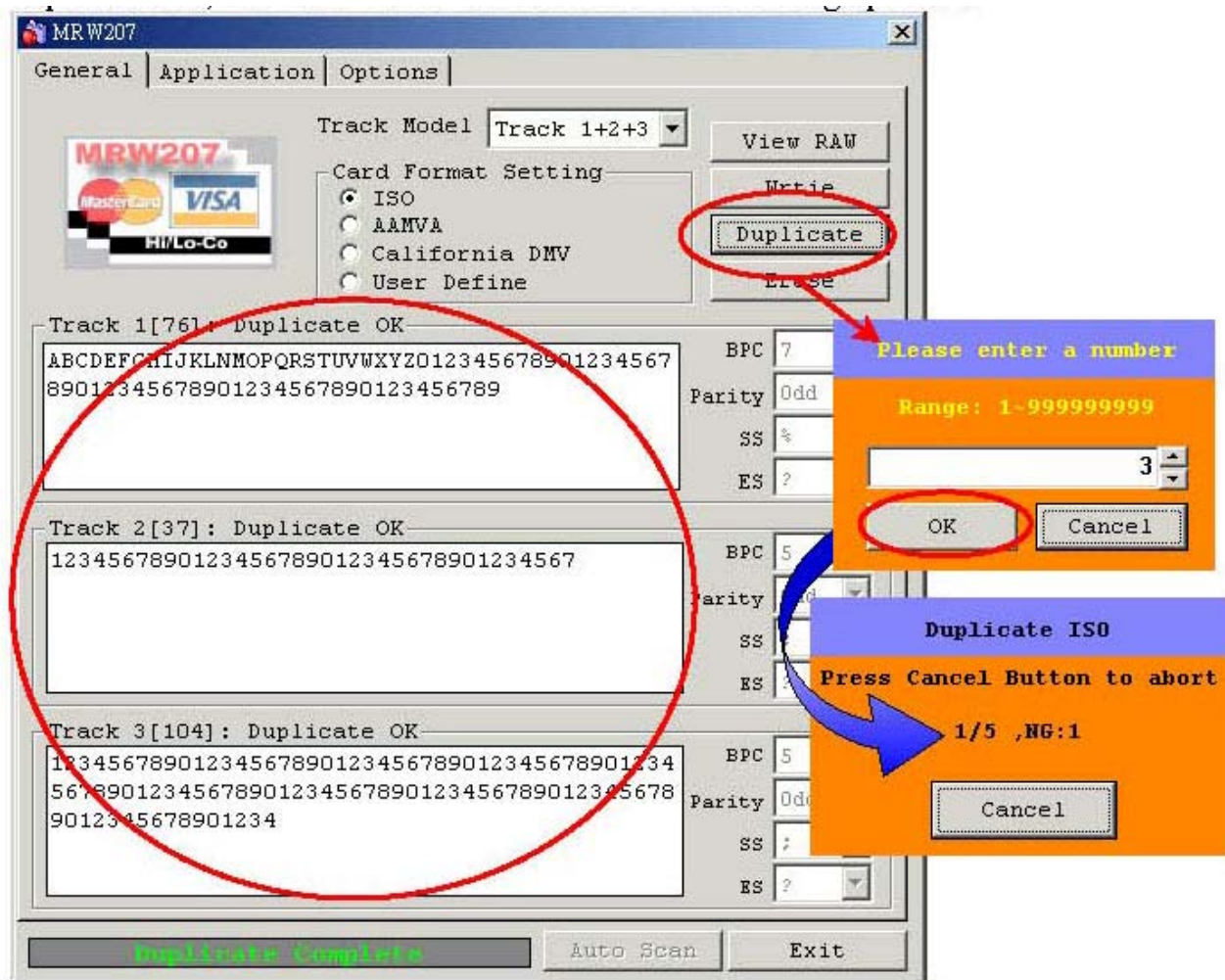
Click ‘Duplicate’ and enter the number of duplicate card.

Step 4

Click 'Ok' button to begin the Duplication. Swipe the magnetic card one by one after clicking 'Ok' button.

Note

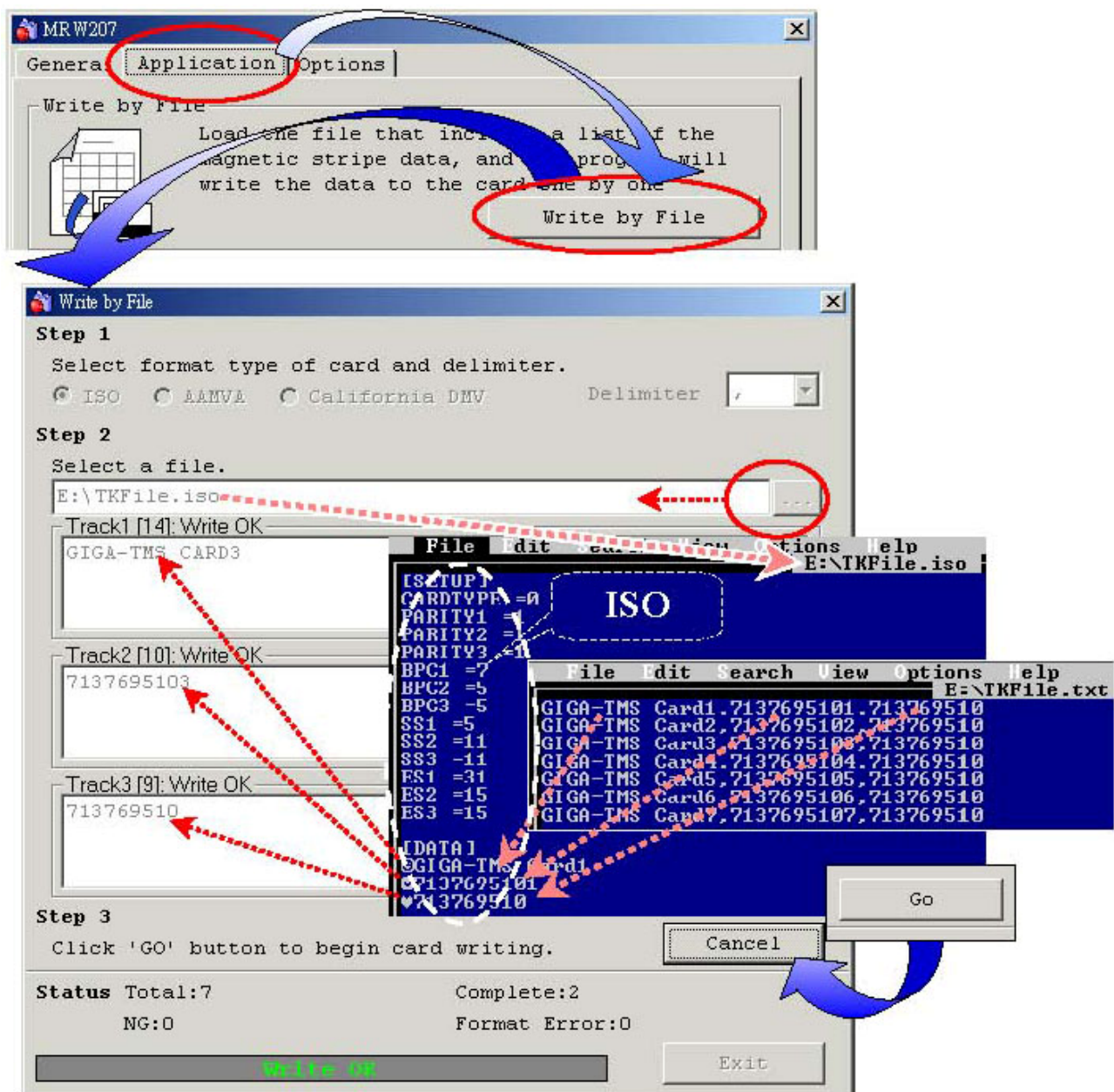
The meaning of '1/5, NG: 1' is that 1 card is duplicated ok, and the total card to be duplicated is 5, and 'NG: 1' means the number of error during operation.



Application

Writing by File

This section describes how to write data in file onto the magnetic cards by PG-MSR207.



Notes On Status:

Total shows how many track data are read in buffer. If PG-MSR207 has not read all data from the file yet, it'll follow a symbol "+", telling you that there are some more to be read.

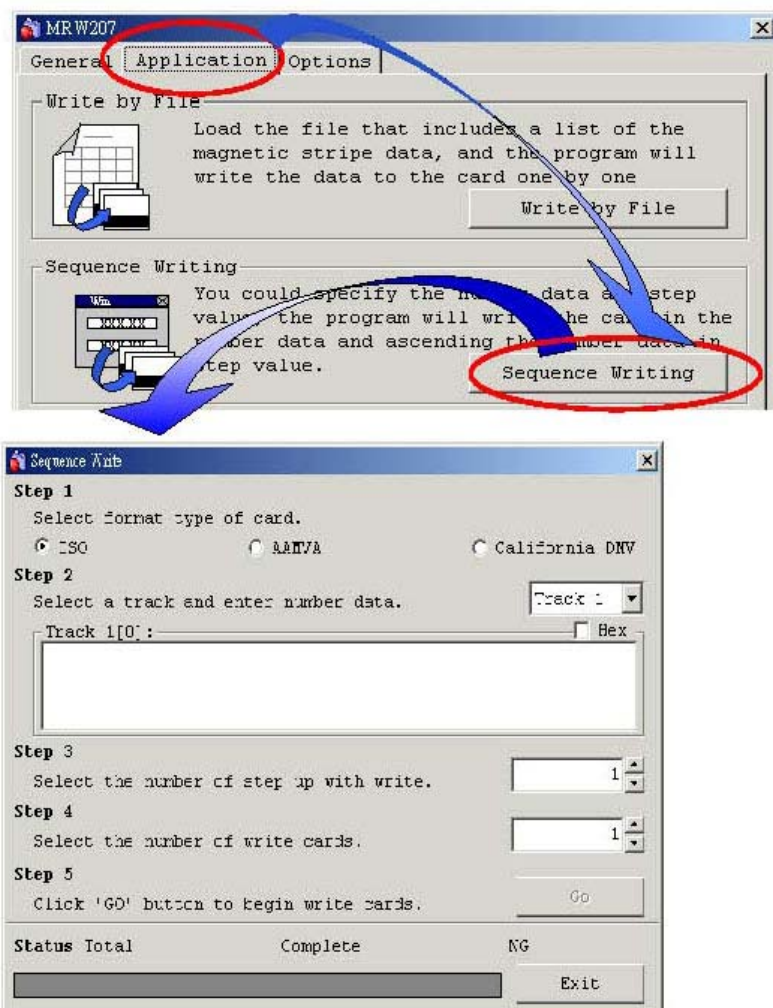
Complete the number of completion.

NG the number of failed.

Format Error shows the number of track format error from the file.

Sequence Writing

This section describes how to sequence write data onto the magnetic cards by PG-MSR207.



Note On Status:

Total the number of cards to be written.

Complete the number of cards completed writing.

NG shows the number of cards failed writing.

Options

Magnetic Coercivity

Click High/Low column either to select to write the card in High Magnetic Coercivity between 2750 and 4000 Oe or Low Magnetic Coercivity between 300 and 600 Oe.

Leading Zero

Select Leading Zero in 'Track 1,3'/'Track 2' combo box or click 'Default' button to set the default value of Leading Zero.

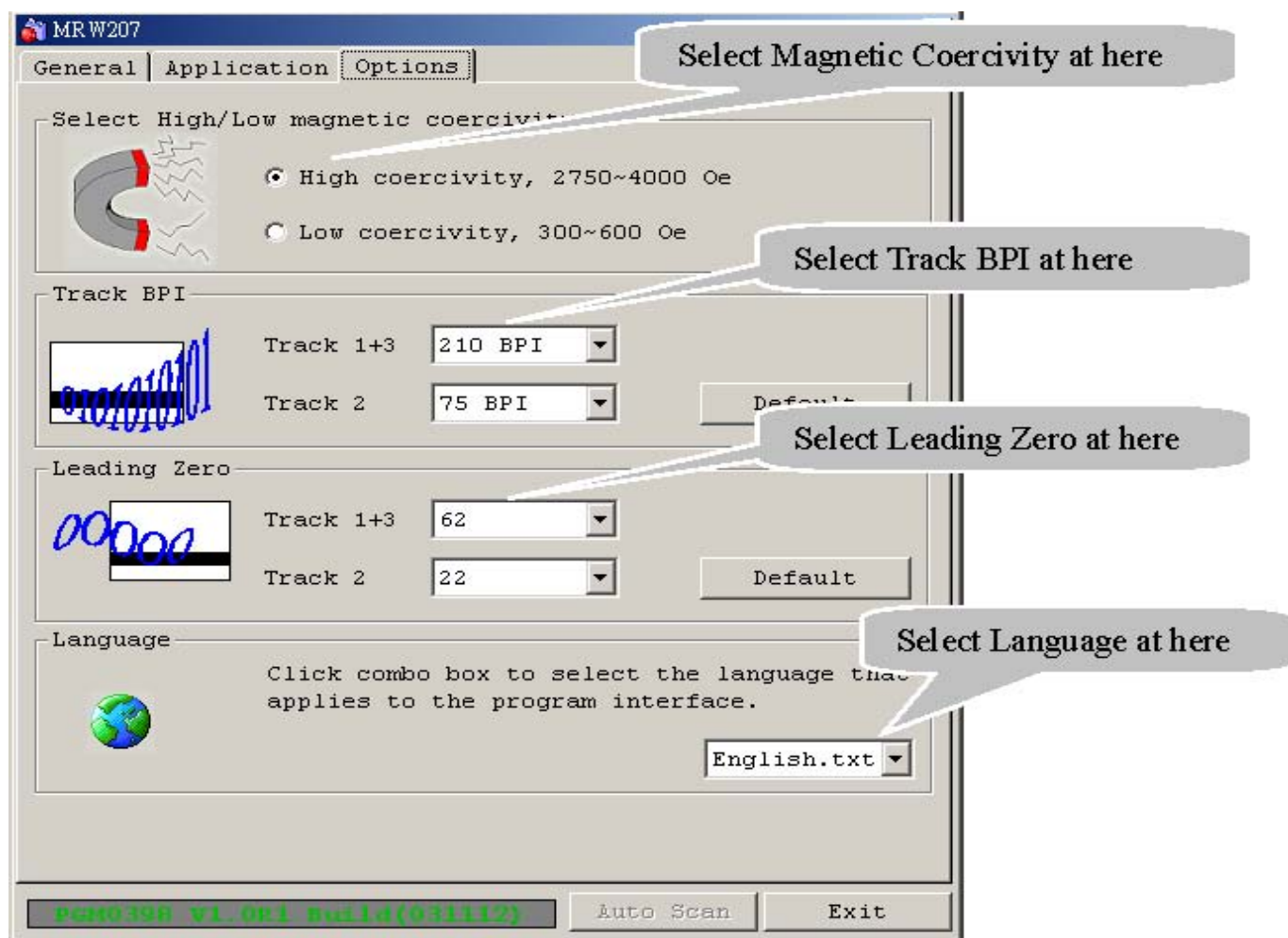
Track BPI(Bit Per Inch)

Select Track BPI in 'Track 1,3'/'Track 2' combo box or click 'Default' button to set the default value of Track BPI.

Language

Select local language in language combo box. P.S. You have to add a file of local language first. Find the English version 'Language' subdirectory of program directory for modification. Save the modified text as a new file at the same 'Language' subdirectory.

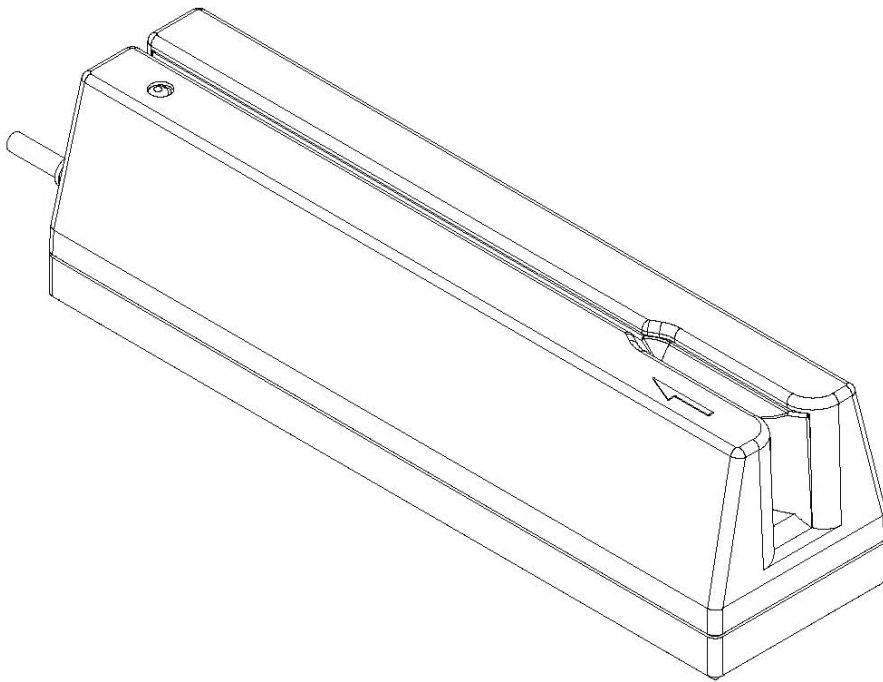
(Such as "C:\Program Files\GIGA-TMS\PG-MSR207\Language\English.txt")



PG-MSR207x ActiveX

Programmer

Guide



PG-MSR207x Command Settings

Property

Format Type Property

Sets or returns the card format type.

Syntax

Object.FormatType [= Integer]

Format Type include the following settings:

Constant	Integer	Description
0	ISO	ISO format type
1	AAMVA	AAMVA format type
2	CALIFORNIA_DMV	CALIFORNIA_DMV format type
3	USER_DEFINE	User define format type
4	RAW	RAW format type

Remarks

After you select USER DEFINE format type, you have to use the Format method setting BPC, SS, ES and Parity to define format type.

Data Type

Integer

Track Property

Read or Writes a data to the PG-MSR207 buffer. This property is not available at design time.

Syntax

```
Object.Track [ = String ]  
[ String = ] Object.Track
```

Remarks

The Track property can read or write text data. To read or write data using the Track property

Data Type

String

LastError Property

Returns the most recent communication error. This property is not available at design time and is read-only at run time.

Syntax

```
[ Integer= ] Object.LastError
```

Communication errors include the following settings:

Constant	Integer	Description
MRW_SUCCESS	0x00	Success
MRW_TIMEOUT	0x02	Timeout
MRW_CANCEL	0x03	Cancel
MRW_OVERHEAT	0x04	The magnetic head is over heat (Reserve)
MRW_WRONGCMD	0x05	Invalid command.
MRW_UNKNOWN	0x80	Unknown Error

Remarks

Although the OnEvent event is generated whenever a communication error occurs, the LastError property holds the numeric code for that error. To determine the actual error that caused the OnEvent event, you must reference the LastError property.

The LastError property returns one of the following values for communication errors. These constants can also be found in theObject Library for this control.

Data Type

Integer

TrackError Property

Returns the most recent communication error. This property is not available at design time and is read-only at run time.

Syntax

[Integer=] Object.TrackError(Index As TRACK)

Index include the following settings:

Constant	Value	Description
Track1	0x01	Track 1
Track2	0x02	Track 2
Track3	0x03	Track 3

Communication errors include the following settings:

Integer	Description
0x01	MRW_TK_LRC
0x02	MRW_TK_PTY
0x04	MRW_TK_DAT
0x08	MRW_TK_FMT

The TrackError property returns one of the following values for communication errors of tracks.

Data Type

Integer

Methods

AutoScan Method

The AutoScan method to Auto scan the PG-MSR207 of a communications port

Syntax

[Boolean =] Object.AutoScan

Remarks

The AutoScan method can found a PG-MSR207. To connect to PG-MSR207 using the AutoScan method.

Return Values

If the function succeeds, the return value is TRUE.
If the function fails, the return value is FALSE.

Beep Method

The Beep method can sound beeps from PG-MSR207.

Syntax

```
[ Boolean = ] Object.Beep( Value As Integer)
```

The value is between 1 and 3.

Return Values

If the function succeeds, the return value is TRUE.

If the function fails, the return value is FALSE.

Format Method

The Format method to setup card format BPC, SS, ES, Parity.

Syntax

```
[ Boolean = ] Object.Format(index As TRACK, bpc As enBPC, ss  
As Integer, es As Integer, parity As PARITY)
```

Settings

index include the following settings:

Constant	Value	Description
Track1	0x01	Track 1
Track2	0x02	Track 2
Track3	0x03	Track 3
	-1	Previous Track value

BPC include the following settings:

Constant	Value	Description
MRWBPC4	4	BPC value is 4
MRWBPC5	5	BPC value is 5
MRWBPC6	6	BPC value is 6
MRWBPC7	7	BPC value is 7
	-1	Previous BPC value

Parity include the following settings:

Constant	Value	Description
none	0	No parity
odd	1	Odd parity
even	2	Even parity
	-1	Previous Parity value

SS/ES include the following settings:

Value	Description
-1	Previous SS/ES value

Return Values

If the function succeeds, the return value is TRUE.

If the function fails, the return value is FALSE.

Example

```
Boolean = PG-MSR207x.Format(Track1, MRWBPC7, Asc("%"),
Asc("?"), odd)
```

ReadRaw Method

The ReadRaw Method to check PG-MSR207 has data in RAW buffer.

Syntax

[Boolean =] Object.ReadRaw

Return Values

If the function succeeds, the return value is TRUE.

If the function fails, the return value is FALSE.

UserCancel Method

The UserCancel to cancel the PG-MSR207 card writing.

Syntax

[Boolean =] Object.UserCancel

Return Values

If the function succeeds, the return value is TRUE.

If the function fails, the return value is FALSE.

GetVersion Method

Returns firmware version from the PG-MSR207.

Syntax

[String =] Object.GetVersion

Return

If the function success, the return value is string and not null.

If the function fails, the return value is null string.

LastIPS Method

The LastIPS method return read/write card by how many IPS.

Syntax

[Single =] Object.LastIPS

Return Value

The return value type is single.

GetFormatInfo Method

The GetFormatInfo method can get format information by the format type.

Syntax

[Integer =] Object.GetFormatInfo(TkIndex As TRACK, index As enFmtInfo)

TkIndex include the following settings:

Constant	Value	Description
Track1	1	Select Track 1
Track2	2	Select Track 2
Track3	3	Select Track 3

index include the following settings:

Constant	Value	Description
BPC	0	Bit Per Character
SS	1	Start Sentinel
ES	2	End Sentinel
Pairty	3	Parity
MaxLen	4	Track Max Length
FirstChr	5	Track First Char
LastChr	6	Track Last Char

Return Value

The return value type is integer.

Example

```
Integer = PG-MSR207x.GetFormatInfo(Track1, BPC)
```

InChars Method

The InChars method to check KeyAscii is in chars by the track format or to get a first/last char in the BPC by the format type.

Syntax

```
[ Integer =] Object.InChars(Index As enInCharInx, KeyAscii As enInChar)
```


Settings

Index include the following settings:

Constant	Value	Description
InChrTK1	1	Check KeyAscii by track 1 format
InChrTK2	2	Check KeyAscii by track 2 format
InChrTK3	3	Check KeyAscii by track 3 format
InChrBPC4	4	Check KeyAscii by BPC4 format
InChrBPC5	5	Check KeyAscii by BPC5 format
InChrBPC6	6	Check KeyAscii by BPC6 format
InChrBPC7	7	Check KeyAscii by BPC7 format
InChrRAW	8	Check KeyAscii by RAW format

KeyAscii include the following settings:

Constant	Value	Description
----------	-------	-------------

MRWFirstChar	0	The return a ASCII code of first char by the specified Index
--------------	---	--

MRWLastChar	1	The return a ASCII code of last char by the specified Index
-------------	---	---

Return

If KeyAscii is MRWFirstChar/MRWLastChar, the return value is First/Last Char by Index

If KeyAscii is over Ascii code 32 and it is not in chars by Index, the return value is zero else the return KeyAscii code.

Example

‘Check KeyAscii of key press is in the chars by TK1~TK3 format

Private Sub txtTK_KeyPress(Index As Integer, KeyAscii As Integer)

```

        KeyAscii = Asc(UCase(Chr(KeyAscii)))
        Select Case KeyAscii
            Case 0 To 31
            Case Else
                KeyAscii = PG-MSR207x.InChars(InChrTK1 +
Index, KeyAscii)
        End Select
    End Sub

‘Set SS/ES ASCII range in MRWFirstChar and MRWLastChar by
BPC7
Private Sub Command1_Click()
    Dim J As Integer
    For J = PG-MSR207x.InChars(InChrBPC7, MRWFirstChar)
To PG-MSR207x.InChars(InChrBPC7, MRWLastChar)
        Char = Chr(J)
        If (J And 1) = 1 Then
            cboSS.AddItem Char    'bit0 can't be zero
        End If
        cboES.AddItem Char
    Next J
End Sub

```

TrackBPI Method

The TrackBPI method can set Track BPI of Card.

Syntax

[Boolean =] Object. TrackBPI (nTK13 As Integer, nTK2 As Integer)

Parameters

The nTK13 to set TrackBPI of track 1 and 3

The nTK2 to set TrackBPI of track 2

Return Values

If the function succeeds, the return value is TRUE.

If the function fails, the return value is FALSE.

LeadZero Method

The LeadZero method can set Lead Zero of Card.

Syntax

[Boolean =] Object.LeadZero(nTK13 As Integer, nTK2 As Integer)

Parameters

The nTK13 to set Lead Zero of track 1 and 3

The nTK2 to set Lead Zero of track 2

Return Values

If the function succeeds, the return value is TRUE.

If the function fails, the return value is FALSE.

SetCoercivity Method

The SetCoercivity method can set card writing in High/Low Magnetic Coercivity.

Syntax

[Boolean =] Object.SetCoercivity(HiLow As enCoer)

Settings

HiLow include the following settings:

Constant	Value	Description
MRWCOHIGH	1	Set the High Magnetic Coercivity
MRWCOLOW	0	Set the Low Magnetic Coercivity

Return Values

If the function succeeds, the return value is TRUE.

If the function fails, the return value is FALSE.

SetLED Method

The SetLED method can turn off/on power of LED of PG-MSR207.

Syntax

[Boolean =] Object.SetLED(index As enLED, offon As enLEDPWR)

Settings

index include the following settings:

Constant	Value	Description
LEDGREEN	0	Set power of green LED.
LEDRED	1	Set power of red LED.

offon include the following settings:

Constant	Value	Description
LEDOFF	0	Turn off power
LEDON	1	Turn on power

Return Values

If the function succeeds, the return value is TRUE.

If the function fails, the return value is FALSE.

GetRAWTrack Method

Returns the data from the PG-MSR207 RAW buffer.

Syntax

[String =] Object.GetRAWTrack(index As TRACK)

index include the following settings:

Constant	Value	Description
Track1	1	Select Track 1
Track2	2	Select Track 2
Track3	3	Select Track 3

Return

Return a string.

Write Method

The Write method make to Writing track data to card.

Syntax

[Boolean =] Object.Write(track As WTRACK)

Settings

TRACK include the following settings:

Constant	Value	Description
Track1	1	Select Track 1
Track2	2	Select Track 2
Track3	4	Select Track 3

Remarks

If you have to Write track 1+2+3, the TRACK value is 7 (value = 1 or 2 or 4).

Example

Write Track 1+2+3:

```
For I = 1 To 3
```

```
    PG-MSR207x.TRACK(I) = strTrack(I)
```

```
Next I
```

```
PG-MSR207x.Write 7, FALSE
```

Return Values

If the function succeeds, the return value is TRUE.

If the function fails, the return value is FALSE.

Erase Method

The Erase method make to Erasing track data to card.

Syntax

```
[ Boolean = ] Object.Erase(track As WTRACK)
```

Settings

TRACK include the following settings:

Constant	Value	Description
Track1	1	Select Track 1
Track2	2	Select Track 2
Track3	4	Select Track 3

Remarks

If you have to Erase track 1+2+3, the TRACK value is 7 (value = 1 or 2 or 4).

Example

Erase Track 1+2+3:
PG-MSR207x.Erase 7

Return Values

If the function succeeds, the return value is TRUE.
If the function fails, the return value is FALSE.

Event

OnEvent Event

The OnEvent event is generated whenever swipe the magnetic card through the slot of PG-MSR207, or the value of the LastError property changes, indicating that either a communication event occurred.

Syntax

Private Sub object_OnEvent()

Example

```
Private Sub PG-MSR207x_OnEvent(ByVal nEvent As Integer)
    Dim I As Integer
    Select Case nEvent
    Case MRW_READ
        For I = 1 To 3
            strTrack(I) = PG-MSR207x.TRACK(I)
        Next I
    Case MRW_CANCEL
        MsgBox "User Cancel", vbOKOnly
    Case MRW_TIMEOUT
        MsgBox "Timeout", vbOKOnly
    Case MRW_OVERHEAT '(Reserve)
        MsgBox "Over Heat", vbOKOnly
    End Select
End Sub
```


APPENDIX B

Hardware Installation Chart

